

| (51) Int. Cl. ⁵ | Identification Code: | Intra-agency Reference No: | FI | Basis of Classification |
|----------------------------|----------------------|----------------------------|----|-------------------------|
| A 61 K 7/00 | J | 9164-4C | | |
| 7/027 | | 9164-4C | | |
| 7/48 | | 9051-4C | | |

Request for Examination: not filed Number of Claims: 3 (Total of 6 pages)

(21) Patent Application No: Hei 4-108331

(22) Application Date: March 18, 1992

(71) Applicant: 000000114
Kabushiki Kaisha Isehan
7 Gobancho, Chiyoda-ku, Tokyo(72) Inventor: Hiroshi Igarashi
5687-3 Sakate-machi, Mizukaido-shi,
Ibaragi Prefecture(54) Title of the Invention SOLID SILICONE BLEND
FINISHING COSMETIC

(57) [Abstract]

[Object] To provide finishing cosmetic such as lipstick or foundation which, when applied, is long lasting and is not sticky or greasy.

[Constitution] A blend of 1-30 percent by weight of an alkylsiloxysilicate component, a solid silicone having the structure $(R_3Si)_2O_nSiO_2$ (R : alkyl group), where the alkyl group is a methyl group (CH_3 -) and/or ethyl group (C_2H_5 -) and n ranges from 1 to 5, 1-60 percent by weight of a low-viscosity silicone oil component with a viscosity of no more than 10 cs (25°C), and/or 0-40 percent by weight of a silicone oil and/or oily component other than the low-viscosity silicone oil in addition to other components conventionally used to manufacture finishing cosmetics.

[Claims]

[Claim 1] Solid silicone blend finishing cosmetic characterized by the fact that it contains component (a), provided with the below-described structure, and component (b),

- (a) alkylsiloxysilicate which is a solid silicone
- (b) low-viscosity silicone oil with a viscosity of no more than 10 cs (25°C),

component (a) being present in amounts ranging from 1 to 30 percent by weight and component (b) being present in amounts ranging from 1 to 60 percent by weight.

Structure of (a)

$(R_3Si)_2O_nSiO_2$ R: Alkyl group

[Claim 2] Solid silicone blend finishing cosmetic in Claim 1, wherein the alkylsiloxysilicate's alkyl group is a methyl group (CH_3 -) and/or ethyl group (C_2H_5 -), and n ranges from 1 to 5.

[Claim 3] Solid silicone blend finishing cosmetic in Claims 1 and 2 wherein the silicone oil and/or oily agent other than low-viscosity silicone oil is present in amounts ranging from 0 to 40 percent by weight.

[Detailed Description of the Invention]

[0001]

[Industrial Field of Application] The present invention relates to a solid silicone blend finishing cosmetic. More specifically, it relates to a solid silicone blend finishing cosmetic which contains a combination of alkylsiloxysilicate, which is a solid silicone, and a low-viscosity silicone not exceeding a specified viscosity, which shows excellent lasting power and is not sticky or greasy when applied.

[0002]

[Prior Art] Finishing cosmetics comprising chiefly colorants, solid or pasty-liquid oils, and/or humectants are known in the prior art. Components used in prior art formulations of lipstick, which best typifies finishing cosmetic, include solids listed in *Cosmetic Materials (Standards for Cosmetic Materials (Keshohin Genryo Kijun))* and *Unlisted Cosmetic Materials (Components not Listed in the Standards for Cosmetic Materials (Keshohin Genryo Kijungai Seibun Kikaku))* such as carnauba wax, candelilla wax, beeswax, solid paraffin, ceresin, microcrystalline wax, polyethylene wax, glycerol straight-chain fatty acid esters, and ethylene glycol straight-chain fatty acid esters; oils listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as castor oil, olive oil, jojoba oil, macadamia nut oil, mink oil, squalane, liquid lanolin, lanolin acetate, petroleum jelly, and various esters; colorants listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as approved pigments, for example, red No. 3, red No. 104 (1), red No. 105 (1), red No. 106, red No. 201, red No. 202, red No. 205, red No. 206, red No. 207, red No. 218, red No. 223, red No. 230 (1), blue No. 1, yellow No. 4, yellow No. 5, their aluminum,

barium, or other lakes, titanium oxide, red iron oxide, yellow iron oxide, carbon black, Prussian blue, mica, sericite, nylon, and micaceous titanium.

[0003] Components used in prior art formulations of foundation, another typical finishing cosmetic, include solids listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as ozokerite, solid paraffin, ceresin, microcrystalline wax, polyethylene wax, glycerol straight-chain fatty acid esters, and ethylene glycol straight-chain fatty acid esters; oils listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as liquid paraffin, silicone oil, olive oil, jojoba oil, macadamia nut oil, mink oil, squalane, liquid lanolin, lanolin acetate, petroleum jelly, and various esters; humectants listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as propylene glycol, glycerol, and butylene glycol; colorants listed in *Cosmetic Materials* and *Unlisted Cosmetic Materials* such as approved pigments, for example, red No. 106, red No. 201, red No. 202, red No. 205, red No. 206, red No. 207, red No. 226, red No. 228, red No. 230 (1), blue No. 1, blue No. 204, yellow No. 4, yellow No. 5, and yellow No. 205, their aluminum, barium, or other lakes, titanium oxide, red iron oxide, yellow iron oxide, carbon black, Prussian blue, talc, kaolin, mica, sericite, nylon, micaceous titanium, and zirconium oxide.

[0004]

[Problems To Be Solved by the Invention] However, when lipstick, a typical finishing makeup, made with these prior art colorants, solids, and oils is applied to the lips, some or all of the lipstick comes off on skin or eating utensils that the lips touch, compromising the cosmetic effect. In addition, when foundation made with these prior art colorants, solids, oils, and/or humectants is applied to the face and neck, some or all of the foundation comes off on skin and apparel that the face and neck touch, compromising the cosmetic effect. Thus, the industry desires the development of a finishing cosmetic that has excellent lasting power and is not sticky or greasy when applied.

[0005]

[Means of Solving the Problems] As a result of extensive research aimed at overcoming the above-described problems, the present inventors discovered that a finishing cosmetic that is long lasting and is not sticky or greasy could be obtained by combining alkylsiloxysilicate as part [sic] of the solid component and low-viscosity silicone oil as part or all of the oily component, leading to the present invention. Thus, the present invention provides a finishing cosmetic characterized by the fact that it contains (a) and (b),
(a) alkylsiloxysilicate which is a solid silicone
(b) low-viscosity silicone oil with a viscosity of no more than 10 cs (25°C),
component (a) being present in amounts ranging from 1 to 30 percent by weight and component (b) being

present in amounts ranging from 1 to 60 percent by weight.

[0006] The alkylsiloxysilicate (a) used in the present invention is trialkylsiloxysilicate, $(R_3Si)_2O_nSiO_2$, where the R- alkyl group is a methyl group (CH_3-) and/or ethyl group (C_2H_5-) , and n ranges from 1 to 5. The substance is solid at room temperature and is usually a predominantly white powder or mass. The low-viscosity silicone oil (b) with a viscosity of no more than 10 cs (25°C) used in the present invention is methyl polysiloxane, which may be a cyclic polymer $[(CH_3)_2SiO]_n$, where n ranges from 3 to 6 or a straight-chain polymer $(CH_3)_3SiO-[(CH_3)_2SiO]_n-OSi(CH_3)_3$, where n ranges from 1 to 12. The alkylsiloxysilicate, a solid silicone, is blended in amounts of preferably 1-30 percent, more preferably 3-15 percent, by weight of the entire composition. If less than 1 percent by weight is used, the effect of the invention is not obtained, and if more than 30 percent by weight is used, too few of the other solid components can be blended into the composition, compromising its utility as a cosmetic.

[0007] Low-viscosity silicone oil with a viscosity of no more than 10 cs is blended into the composition in amounts of preferably 1-60 percent, more preferably 10-45 percent, by weight of the entire composition. If less than 1 percent by weight is used, the effect of the invention is not obtained, and if more than 60 percent by weight is used, too few of the other solid components can be blended into the composition, compromising its shape permanence. It is preferred that the low-viscosity silicone oil have a viscosity of no more than 10 cs (25°C). If the viscosity exceeds 10 cs (25°C), it is the same as using silicone oil and/or an oily component [sic], and the effect of the invention is not obtained. Silicone oil and/or oils other than low-viscosity silicone oil are blended in amounts of preferably 0-40 percent, more preferably 0-25 percent, by weight. If these components exceed 40 percent by weight, the effect of the invention is not fully realized. [0008] In addition to the aforementioned essential components, other components conventionally used in cosmetics may be selected for blending into the solid

silicone blend finishing cosmetic of the invention, including solid components listed in *Cosmetic Materials, Unlisted Cosmetic Materials*, or the like and/or approved for use in cosmetics such as carnauba wax, candelilla wax, beeswax, ozokerite, solid paraffin, ceresin, microcrystalline wax, polyethylene wax, glycerol straight-chain fatty acid esters, and ethylene glycol straight-chain fatty acid esters; oily components listed in *Cosmetic Materials, Unlisted Cosmetic Materials*, or the like and/or approved for use in cosmetics such as liquid paraffin, silicone oil, castor oil, olive oil, jojoba oil, macadamia nut oil, mink oil, squalane, liquid lanolin, lanolin acetate, petroleum jelly, and various esters; humectants listed in *Cosmetic Materials, Unlisted Cosmetic Materials*, or the like and/or approved for use in cosmetics such as propylene glycol, glycerol, and butylene glycol; colorants listed in *Cosmetic Materials, Unlisted Cosmetic Materials*, or the like and/or approved for use in cosmetics, for example, approved pigments such as red No. 3, red No. 104 (1), red No. 105 (1), red No. 106, red No. 201, red No. 202, red No. 205, red No. 206, red No. 207, red No. 218, red No. 223, red No. 226, red No. 228, red No. 230 (1), blue No. 1, blue No. 204, yellow No. 4, yellow No. 5, and yellow No. 205, their aluminum, barium, or other lakes, titanium oxide, red iron oxide, yellow iron oxide, carbon black, Prussian blue, talc, kaolin, mica, sericite, nylon, micaceous titanium, and zirconium oxide; and components listed in *Cosmetic Materials, Unlisted Cosmetic Materials*, or the like and/or approved for use in cosmetics such as beauty components, fragrances, antioxidants, preservatives, and ultraviolet absorbers. The solid silicone blend finishing cosmetic of the invention can be manufactured by conventional methods and may be used in the form of lipstick, lip cream, foundation, rouge, eye shadow, and eyebrow pencil.

[0009]

[Working Examples] The present invention is described hereinbelow by means of working examples, but the present invention is not limited by these examples.

Working Example 1 (Lipstick)

| Component (Wt%) | Inventive Product 1 | Comparative Product 1 |
|---|------------------------|--------------------------|
| (1) Trimethylsiloxysilicate | 10.0 | — |
| (2) Octamethylcyclotetrasiloxane (2.3 cs) | 40.0 | — |
| (3) Candelilla wax | — | 10.0 |
| (4) Dioctyl succinate | — | 40.0 |
| (5) Glycerol tribehenate | 5.0 | 5.0 |
| (6) Microcrystalline wax | 10.0 | 10.0 |
| (7) Carnauba wax | 2.0 | 2.0 |
| (8) Isopropyl myristate | 8.0 | 8.0 |
| (9) Diglyceryl diisostearate | 5.0 | 5.0 |
| (10) Diisostearyl malate | 7.0 | 7.0 |
| (11) Colorant (approved pigment) | 12.0 | 12.0 |
| (12) Antioxidant | 0.1 | 0.1 |
| (13) Fragrance | 0.9 | 0.9 |
| Total | 100.0 | 100.0 |

(Manufacturing Method)

- Melt (1) into (2).
- Mix and melt (3)-(9) at 100-120°C.
- Knead (10) and (11) on a three-roll mill.

- Add "a," "c," (12), and (13) to "b," and mix at 80-95°C until uniform.
 - Pour "d" into containers and cool.
- [0010]

Working Example 2 (Foundation)

| Component (Wt%) | Inventive Product 2 | Comparative Product 2 |
|----------------------------------|---------------------|-----------------------|
| (1) Trimethylsiloxysilicate | 4.0 | 4.0 |
| (2) Methyl polysiloxane (2.0 cs) | 15.0 | — |
| (3) Squalane | — | 15.0 |
| (4) Isononyl isononanoate | 14.0 | 14.0 |
| (5) Microcrystalline wax | 10.0 | 10.0 |
| (6) 1,3-Butylene glycol | 3.0 | 3.5 |
| (7) Titanium oxide | 12.0 | 12.0 |
| (8) Sericite | 15.0 | 15.0 |
| (9) Talc | 12.0 | 12.0 |
| (10) Nylon powder | 10.0 | 10.0 |
| (11) Colorant (Red iron oxide) | 4.4 | 4.4 |
| (12) Antioxidant | 0.1 | 0.1 |
| Total | 100.0 | 100.0 |

(Manufacturing Method)

- Mix (7)-(11) and reduce to powder.
- Melt (1) into (2) and (4).
- Mix and melt (3) and (5) at 90-110°C.
- Add "b," "c," (6), and (12) to "a" and mix at 75-90°C until uniform.

- Pour "d" into containers and cool.

[0011]

[Evaluation] Inventive Products 1 and 2 and Comparative Products 1 and 2 obtained in Working Examples 1 and 2 were wear-tested by 20 women for evaluation.

Working Example 1 Lipstick

| Item Evaluated | Inventive Product 1 is Better | Comparative Product 1 is Better | Can't Say |
|-----------------------------------|-------------------------------|---------------------------------|-----------|
| Long lasting | 20 | 0 | 0 |
| Does not stick to skin | 20 | 0 | 0 |
| Does not stick to eating utensils | 20 | 0 | 0 |
| Not sticky | 20 | 0 | 0 |
| Not greasy | 20 | 0 | 0 |

[0012]

Working Example 2 Foundation

| Item Evaluated | Inventive Product 2 is Better | Comparative Product 2 is Better | Can't Say |
|-----------------------------------|-------------------------------------|---------------------------------------|-----------|
| Long lasting | 20 | 0 | 0 |
| Does not stick to skin | 20 | 0 | 0 |
| Does not stick to eating utensils | 20 | 0 | 0 |
| Not sticky | 20 | 0 | 0 |
| Not greasy | 18 | 0 | 2 |

[0013]

[Effect of the Invention] The solid silicone blend finishing cosmetic of the present invention is an

extremely useful product that is long lasting, does not stick to skin [where not desired], eating utensils, clothing, or the like, and is not sticky or greasy.